

KADYROVA, V.Kh.; KIRPICHNIKOV, P.A.; TOKAREVA, L.G.

Synthesis of organophosphorus stabilizers of polymers. Trudy  
KKHTI no.30:58-62 '62. (MIRA 16:10)

MIKHAYLOV, N.V.; TOKAREVA, L.G.; POPOV, A.G.

Thermostabilization of polypropylene and fibers based on it.  
Vysokomol. soed. 5 no.2:188-194 F '63. (MIRA 16:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo  
volokna.  
(Propene) (Textile fibers, Synthetic—Thermal properties)

TOKAREVA, L.G.; MIKHAYLOV, N.V.; ROZOVA, N.N.; KIRPICHNIKOV, P.A.

Lightfastness of polypropylene and fiber based on it. Khim.  
volok. no.3:23-25 '62. (MIRA 16:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstven-  
nogo volokna.  
(Propene) (Textile fibers, Synthetic) (Photochemistry)

VLASOV, A.V.; GLAZUNOV, P.Ya.; MIKHAYLOV, N.V.; RAFIKOV, S.R.;  
TOKAREVA, L.G.; TSETLIN, B.L.; SHABLYGIN, M.V.

Formation of oriented structures in the radiation polymerization  
of vinyl monomers on fibers. Dokl.AN SSSR 144 no.2:382-383 My  
'62. (MIRA 15:5)

1. Institut elementoorganicheskikh soyedineniy AN SSSR i  
Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo  
volokna. Predstavleno akademikom V.A.Karginym.  
(Vinyl compound polymers) (Radiation)

15.8200

45394  
S/190/63/005/002/005/024  
B101/B102

AUTHORS: Mikhaylov, N. V., Tokareva, L. G., Popov, A. G.  
TITLE: Stabilization of polypropylene and of fibers made thereof against heat  
PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 5, no. 2, 1963, 188-194

TEXT: The effects due to 0.03 mole/kg additions of stabilizers were compared by measuring the oxygen absorption of the polypropylene at 200, 250, and 300°C and by determining the effect of the stabilizers on the breaking length of fibers drawn from the polymer at 220-250°C. At 200°C, oxidation of the polymer set in without stabilizer after an induction period of 5-7 min. The induction period was prolonged by 2,5-di-tert-butyl-4-methyl phenol (ionol) to 20 min, by II-24 (P-24) phenol - styrene copolymer to 40 min, by 2,2'-methylene-bis-(4-methyl-6-tert-butyl phenol) (2246) to 120 min and by N,N'-phenyl-cyclohexyl-p-phenylene diamine (4010) to 130 min. At 250°C a two-stage induction period was observed, particularly in the presence of dibenzyl sulfide. The first induction period was

Card 1/3

S/190/63/005/002/005/024  
B101/B102

## Stabilization of polypropylene ...

10 min, the second ~ 300 min. At 300°C, the absorption curves became complicated in consequence of simultaneous thermooxidation and thermal degradation. The effects of the stabilizers on the polymer and on the drawn polymer fiber were divergent. At 200°C, and with the addition of 2246 or phenol croton aldehyde condensation product  $\Pi$ -26 (P-26), the induction periods were respectively 120 and 130 min for the polymer, but only 45 and 80 min for the fiber. With N,N'-di- $\beta$ -naphthyl-p-phenylene diamine, the induction period of the polymer was 10 min, that of the fiber 120 min. Crosslinking, and increased solubility of the stabilizer in the fiber as a result of the drawing, are suggested as explanations of the longer induction period of the fiber compared with the polymer. Reduction of the induction period can be due to the stabilizer becoming insoluble in the fiber or being decomposed in the drawing. This problem calls for further investigation. The effect of the stabilizer on the breaking length (km) and elongation (%) of the fiber after 8 hrs heating at 150°C was studied. The best results were obtained with 2,6-di-tert-butyl-4-methyl-phenyl pyrocatechol phosphite, 2,6-diisobornyl-4-methyl phenol (264), 2,2'-thio-bis-(6-tert-butyl-4-methyl phenol) (KAO-6 [KAO-6]), 2264 and mixtures of stabilizers with sulfur-containing organic compounds. Without stabilizer the polypropylene fiber did not endure the test; with the

Card 2/3

Stabilization of polypropylene ...

S/190/63/005/002/005/024  
B101/B102

stabilizers mentioned, a residual breaking length of 60-70% was reached. No connection was found between the length of the induction period and the stabilization against heat. A synergetic effect was observed in mixtures, e.g., of 264 + 4010, ratio 1:1 (residual breaking length 67.2%). Particularly, 2,6-di-tert-butyl-4-methyl-phenyl pyrocatechol phosphite, terpene phenols and mixtures of these substances with sulfur- as well as phosphorus-containing compounds are efficient stabilizers of the polypropylene fiber. There are 1 figure and 2 tables.

ASSOCIATION:

Vsesoyuznyy nauchno-issledovatel'skiy institut  
iskusstvennogo volokna (All-Union Scientific Research  
Institute of Synthetic Fibers)

SUBMITTED:

July 15, 1961

Card 3/3

TOKAREVA, L.G.; MIKHAYLOV, N.V.; POTEMKINA, Z.I.; KOVALEVA, M.V.;  
BORIK, A.G.; ZEMSKOVA, G.N.; ZOTOVA, Ya.E.

Stabilization of polyamide fibers. Khim.volok. no.3:15-21 '61.

(MIRA 14:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna (for Tokareva, Mikhaylov, Potemkina, Kovaleva). 2. Klinskiy kombinat (for Borik, Zemskova). 3. Mytishchinskiy zavod (for Zotova).

(Textile fibers, Synthetic)



S/844/62/000/000/100/129  
D204/D307

AUTHORS: Mikhaylov, N. V., Tokareva, L. G., Bratchenko, T. D.,  
Karpov, V. L. and Malinskiy, Yu. M.

TITLE: The action of  $\gamma$  radiation on artificial fibers

SOURCE: Trudy II Vsesoyuznogo soveshchaniya po radiatsionnoy khimii. Ed. by L. S. Polak. Moscow, Izd-vo AN SSSR, 1962, 589-595

TEXT: The effects of 0.05 - 1000 Mrad doses on polyamide and polyester fibers, and the possibility of improving the thermal stability of synthetic fibers and improving their adhesion to rubber by the addition of various monomers, were investigated. Polyethylene terephthalic fiber was practically unaffected under doses of up to 100 Mrad, owing to the stabilizing effect of the aromatic groups, whilst a caprone fiber was already affected at 1 Mrad. The specific viscosity ( $\eta$ ) of 0.5% solutions of irradiated caprone filaments and single fibers (diameter respectively 0.03 and 0.7 mm) was measured. For the thinner fiber,  $\eta$  increased in vacuum and decreased

Card 1/3

S/844/62/000/000/100/129  
D204/D307

The action of  $\gamma$  radiation...

in air, whilst  $\eta$  of the monofiber increased when the latter was irradiated both in the presence and absence of air. This, and the changes in the strength and elongation showed that polyamide fibers undergo oxidative processes on irradiation; the greater changes in the presence of  $O_2$  were particularly pronounced for the thinner fibers. Thin fibers underwent destruction when irradiated in air, whilst thicker specimens became structurized owing to the less ready diffusion of  $O_2$  into the mass; structurization of the thicker fibers was also observed in vacuum. In contrast to the caprone fiber which was mainly structurized in both amorphous and crystalline states on irradiation, a terylene fiber was largely destroyed in the amorphous and structurized in the crystalline state. This difference in the behavior of polyamide and polyester fibers is ascribed to the considerably higher crystallinity of the latter. The above phenomena should be kept in mind when artificial fiber materials are to be utilized in practice. The effects of additions of acrylonitrile, styrene, toluylidiisocyanate, hexamethylenediisocyanate and vinylpyridine to the caprone fiber were studied, with

Card 2/3

The action of  $\gamma$  radiation ...

S/844/62/000/000/100/129  
D204/D307

doses of 0.01 - 50 Mrad, finding that in all cases, for a dose of 50 Mrad, the loss in strength was considerably reduced by the monomers, both at 20 and at 80°C. Acrylonitrile grafted on to the caprone fiber. There are 3 figures and 4 tables.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennykh volokon; Fiziko-khimicheskiy institut im. L. Ya. Karpova (All-Union Scientific Research Institute of Artificial Fibers; Physico-Chemical Institute im. L. Ya. Karpov)

Card 3/3

5.3833

39849

U/190/62/004/008/008/016  
B101/B180

AUTHORS: Mikhaylov, N. V., ~~Tokareva, L. G.~~ Buravchenko, K. K.,  
Terekhova, G. M., Kirpichnikov, P. A.

TITLE: Stabilization of polyethylene terephthalate melts

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 8, 1962,  
1186-1192

TEXT: In this fifth report on the ageing of synthetic fibers, the authors studied the thermooxidative decomposition of polyethylene terephthalate (PET) (initial intrinsic viscosity  $[\eta] = 0.245$ ; after reprecipitation  $[\eta] = 0.256$ ) at 170 - 220°C (methods see Kolloidn. zh., 18, 578, 1956) and their inhibition by esters of phosphorous acid.

Results: (1) Heating to 220°C in N<sub>2</sub> shows no change in  $[\eta]$ . When heated in air,  $[\eta]$  decreased more slowly in PET with reprecipitation refining than without. It is therefore assumed that thermooxidative processes occur with the formation of COH and COOH groups and destruction of the ester bond. The PET fiber Lavsan behaved similarly: initial breaking  
Card 1/3

Stabilization of polyethylene ...

S/190/62/004/008/008/016  
B101/B180

strength ( $\text{kg/mm}^2$ ) = 42.8; after 4 hrs at  $170^\circ\text{C}$  in  $\text{N}_2$ , 41.0 and at  $210^\circ\text{C}$  in  $\text{N}_2$ , 36.5; after 4 hrs at  $170^\circ\text{C}$  in air, 39.5, and at  $210^\circ\text{C}$ , 14.2.

(2) Triphenyl phosphite (I), tri-p-octyl-phenyl phosphite (II), tri-p-dodecyl phenyl phosphite (III), and tri-p-ter-butyl phenyl phosphite (IV) inhibit the thermal decomposition of PET, and increase its molecular weight and stability. The best moment for adding the inhibitor is at 50-70% polycondensation of PET. (3) After 2 hrs at  $220^\circ\text{C}$  the breaking strength of PET without inhibitor was 47% the initial value 71% with I, 66% with II, 78% with III, and 75% with IV. The longest induction period and smallest loss in molecular weight were found with IV. The inhibiting effect of phosphites is attributed to the fact that they hydrolyze much more easily than PET which is thus protected against hydrolysis. There are 6 figures and 4 tables. The most important English-language reference is: J. M. Ward, Nature, 80, 141, 142, 1957. X

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut  
iskusstvennogo volokna (All-Union Scientific Research  
Institute of Synthetic Fibers)

Card 2/3

Stabilization of polyethylene ...

S/190/62/004/008/008/016  
B101/E180

SUBMITTED: May 8, 1961

X

Card 3/3

TOKAREVA, L.G.

3

15.5540

38110  
S/020/62/144/002/023/028  
B101/B110

AUTHORS: Vlasov, A. V., Glazunov, P. Ya., Mikhaylov, N. V., Rafikov, S. R., Tokareva, L. G., Tsetlin, B. L., and Shablygin, M. V.

TITLE: Formation of oriented structures in radiation-induced polymerization of vinyl monomers on fibers

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 144, no. 2, 1962, 382 - 383

TEXT: An attempt was made to obtain oriented polymers by polymerizing the monomer from the gas phase on oriented macromolecules of fibers acting as "matrices". The experiments were made with a two-chamber apparatus as used for graft polymerization of vinyl monomers on mineral particles (cf. B. L. Tsetlin et al., Tr. 2-go Vsesoyuzn. soveshch. po radiatsionnoy khimii, Izd. AN SSSR, 1962). One chamber contained caprone cord fiber heated to 80°C, and the other contained completely anhydrous acrylonitrile (40°C). Irradiation was made with X-rays (dose rate,  $3 \cdot 10^{15}$  ev/cm<sup>2</sup>·sec) for 3 - 6 hrs at  $10^{-4}$  -  $10^{-5}$  mm Hg. The weight of the fiber increased by 15 - 33 %. The perpendicular dichroism in the -C≡N stretching vibrations (2235 cm<sup>-1</sup>),

Card 1/2

3

Formation of oriented structures in ...

S/020/62/144/002/023/028  
B101/B110

detected by spectroscopy, proved the orientation of the polymer. Experiments with acrylonitrile and non-oriented fiber as well as with liquid acrylonitrile and oriented fiber showed no dichroism. The liquid monomer molecules are assumed to prevent orientation. Further experiments with polymers, man-made and natural fibers used as "matrices" are under way. There is 1 figure.

ASSOCIATION: Institut elementoorganicheskikh soedineniy Akademii nauk SSSR (Institute of Elemental Organic Compounds of the Academy of Sciences USSR). Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna (All-Union Scientific Research Institute of Synthetic Fibers)

PRESENTED: January 19, 1962, by V. A. Kargin, Academician

SUBMITTED: January 12, 1962

Card 2/2



MIKHAYLOV, N.V.; TOKAREVA, L.G.; KOVALEVA, M.V.

Mechanism of the aging of synthetic fibers. Part 1: Thermal and thermooxidative reactions of polyamides and their fibers. Vysokom. soed. 2 no.4:581-589 Ap '60. (MIRA 13:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna.

(Polyamides)

(Textile fibers, Synthetic)

TOKAREVA, L.G.; MIKHAYLOV, N.V.; POTEKINA, Z.I.; KOVALEVA, M.V.

Processes and mechanism of the aging of synthetic fibers.  
Part 2: Studies on the stabilization of polyamide fibers.  
Vysokom. soed. 2 no. 11:1728-1738 N '60. (MIRA 13:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut  
iskusstvennogo volokna.  
(Polyamides)

85424

15-8107

S/190/60/002/011/023/027  
B004/B060

AUTHORS: Tokareva, L. G., Mikhaylov, N. V., Potemkina, Z. I.,  
Kovaleva, M. V.

TITLE: Processes and Mechanism of the Aging of Synthetic Fibers.  
II. Studies in the Field of Polyamide Fiber Stabilization

PERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 11;  
pp. 1728 - 1738

TEXT: The authors have earlier studied the action of heat and light upon polyamide fibers (Ref.3). They have arrived at the conclusion that heat and light effect irreversible oxidation processes, so that the use of antioxidants can prevent these processes from taking place. In the article under consideration, the authors deal with the action of the following antioxidants upon the stability of the caprone fiber which was heated to 200°C for two hours: N,N'-di-β-naphthyl-p-phenylene diamine; 2,2'-methylene-bis-4-methyl-6-tert-butyl phenol; 2,6-di-tert-butyl-4-methyl phenol; 2,4,6-tri-(tert-butyl)-phenol; "Poligard":  $[R-C_6H_4-O]_3P$ ; X

Card 1/6

85424

Processes and Mechanism of the Aging of  
Synthetic Fibers. II. Studies in the  
Field of Polyamide Fiber Stabilization

S/190/60/002/011/023/027  
B004/B060

dimethyl phenyl-p-cresol; dibutyl-dihydroxy-diphenyl sulfide; product of the reaction of acetone with diphenyl amine; N,N'-phenyl-cyclohexyl-p-phenylene diamine; 2,5-di-tert-butyl hydroquinone; product of the reaction of acetone with aminophenol; N,N'-diphenyl-p-phenylene diamine; product of the condensation of phenol with styrene, and phenyl-β-naphthyl amine. Stabilizers were added to the polymer in amounts of 0.1 to 1% prior to spinning of fiber No. 300. Additions of luminophores, such as hydroxy phenyl benzoxazole, which serve as inhibitors of the destructive action of light, indicated that these substances had a thermostabilizing effect as well. The most reliable stabilizer is said to be N,N'-di-β-naphthyl-p-phenylene diamine (DNPDA), which was used in the further experiments. Table 3 shows the action of various additions of DNPDA upon the properties of the caprone fiber. When the fiber was irradiated with a mercury lamp for 20 hours, a protective action was found to come both from DNPDA and from the luminophore hydroxy phenyl benzoxazole. The following results were obtained: 1) Aromatic diamines and their derivatives are efficient stabilizers. 2) On a long action of high temperatures upon the fiber (150°C during 100-150 h) the

Card 2/6

85424

Processes and Mechanism of the Aging of Synthetic Fibers. II. Studies in the Field of Polyamide Fiber Stabilization S/190/60/002/011/023/027 B004/B060

DNPDA-stabilized fiber retained 80-85% of its original stability, while a corresponding value of no more than 20-25% was found for untreated fibers. 3) A brief action of high temperatures upon untreated fibers in nitrogen atmosphere (in the case of DNPDA-treated fibers also in the air) effects reversible changes in stability. Under these circumstances, an untreated fiber undergoes irreversible oxidative processes in the air. 4) Both thermostabilizing and photostabilizing substances exhibited the same protection both against heat and light. N. N. Semenov is mentioned. Gratitude is expressed to A. I. Korolev and his collaborators at the NIOPiK (Scientific Research Institute of Organic Semifinished Materials and Dyes) for their synthesis of DNPDA, and to N. V. Demina jointly with the collaborators of the laboratoriya tekstil'nykh ispytaniy (Textile Test Laboratory) for their fiber analyses. A. M. Glebova took part in the work. There are 6 figures, 5 tables, and 6 references: 4 Soviet, 2 US, 1 British, and 1 Czechoslovakian. X

Card 3/6

85424

Processes and Mechanism of the Aging of      S/190/60/002/011/023/027  
Synthetic Fibers. II. Studies in the Field      B004/B060  
of Polyamide Fiber Stabilization

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut  
iskusstvennogo volokna (All-Union Scientific Research  
Institute of Synthetic Fibers)

SUBMITTED: July 14, 1960

Card 4/6

3/190/60/002/011/023/027  
B004/B060

| 1<br>Количество добавит.<br>диоксида, % | 2 Прогрева |                           |                      | 6 Прогрето 8 час.<br>при 150° |                        |                      | 9 Прогрето 48 час.<br>при 150° |                        |                      | 10 Прогрето 100 час.<br>при 150° |                        |                      |
|---|------------|---------------------------|----------------------|-------------------------------|------------------------|----------------------|--------------------------------|------------------------|----------------------|----------------------------------|------------------------|----------------------|
|   | 3<br>уд    | 4<br>прочность,<br>кг/мм² | 5<br>удлинение,<br>% | 3<br>уд                       | 4 прочность,<br>кг/мм² | 5<br>удлинение,<br>% | 3<br>уд                        | 4 прочность,<br>кг/мм² | 5<br>удлинение,<br>% | 3<br>уд                          | 4 прочность,<br>кг/мм² | 5<br>удлинение,<br>% |
|   | 0,775      | 75,0                      | 18,0                 | 0,406                         | 44,7<br>59,7           | 15,1<br>83,8         | 0,333                          | 25,1<br>33,5           | 10,0<br>55,6         | 0,304                            | 19,2<br>25,8           | 8,3<br>46,0          |
| 0,5                                     | 0,796      | 76,0                      | 13,6                 | 0,859                         | 75,0<br>99,9           | 21,9<br>161          | 0,842                          | 65,2<br>85,8           | 16,4<br>120          | 0,827                            | 66,6<br>88,0           | 16,8<br>125,5        |
| 1                                       | 0,749      | 76,1                      | 15,0                 | 0,825                         | 74,5<br>98             | 20,5<br>138,8        | 0,827                          | 65,5<br>80,2           | 17,4<br>116          | 0,760                            | 68,5<br>87,4           | 19,3<br>128,7        |
| 0,5                                     | 0,745      | 75,0                      | 17,9                 | 0,851                         | 71,1<br>95,2           | 23,4<br>131          | 0,938                          | 61,5<br>82,0           | 18,4<br>163          | 0,825                            | 62,6<br>83,8           | 19,9<br>111          |

Table 3

Card 5/6

S/190/60/002/Q11/023/027  
B004/B060

Legend to Table 3: Changes of caprone fiber properties on long heating  
1 - Addition of DNPDA, %, 2 - prior to heating,  
3 -  $\eta_{\text{spec}}$ , 4 - strength,  $\text{kg/mm}^2$ , 5 - elongation, %,   
6 - 8-h heating to  $150^\circ\text{C}$ , 7 - residual strength, %,   
8 - residual elongation, %, 9 - 48-h heating to  $150^\circ\text{C}$ , 10 - 100 h heating to  $150^\circ\text{C}$ .

Card 6/6



15.5540

2209, 1526 only

81517  
S/190/60/002/004/019/020  
B004/B056

AUTHORS: Mikhaylov, N. V., Tokareva, L. G., Kovaleva, M. V.

TITLE: Investigation of the Mechanism of the Aging of Synthetic Fibers. I. Investigation of the Thermal and Thermal-oxidative Action Upon Polyamide and the Fibers Made From Such

PERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 4, pp. 581-589

TEXT: The authors give a report on the investigation of the behavior of polyhexamethylenedipinamide (PHMAA) and the anid fiber, polycapronamide (PCA) and the caprone fiber at 160° to 220°C in a nitrogen atmosphere or in air and in oxygen. The volatile products were received in liquid oxygen. Of PHMAA and PCA both industrial samples as also such as were purified by re-precipitation were used. In the case of PCA, the viscosity rose with purely thermal treatment (in nitrogen) and fell as a result of thermal-oxidative treatment (Table 1). As shown by Fig. 1, the re-precipitated PCA was more stable than the non-purified substance. PHMAA

Card 1/3

Investigation of the Mechanism of the Aging  
of Synthetic Fibers. I. Investigation of the  
Thermal and Thermal-oxidative Action Upon  
Polyamide and the Fibers Made From Such

84517

S/190/60/002/004/019/020  
B004/B056

heated in nitrogen showed a complex change in its viscosity between 170°C and 200°C (Fig. 2). A minimum at first occurred as the result of predominating destruction processes (Table 2), viz. in the non-purified polymer this occurred earlier than in the purified one. In the course of further heating, a maximum of viscosity was observed, which is explained by processes of structural formation. Finally, the polymer becomes insoluble. As analysis of Table 3 show, the elementary composition of the PHMAA changes little during heating. In the case of anid- and caprone fibers (Table 4, Fig. 3) increased viscosity occurs at first during heating at nitrogen current. In the case of oxidative heating the viscosity decreases. Above 200°C, the caprone fiber becomes insoluble more quickly than the anid fiber, which is more resistant to temperature influences. Figs. 4,6 show the change in the strength and deformation of the fibers between -80 and +200°C. The mechanical properties of the fibers in this temperature interval undergo several changes. A thermal amorphization was observed near the melting point of the crystalline

Card 2/3

84517

Investigation of the Mechanism of the Aging  
of Synthetic Fibers. I. Investigation of the  
Thermal and Thermal-oxidative Action Upon  
Polyamide and the Fibers Made From Such

S/190/60/002/004/019/020  
B004/B056

phase. Figs. 5 and 7 show the change in the strength and deformation of fibers, which had been previously heated to various temperatures. In nitrogen, the breaking length increased, in air irreversible decrease of strength occurred. The behavior of the polyamid fibers is explained by structural transformations in the supermolecular secondary structure. The authors mention a paper by S. R. Rafikov and R. A. Sorokina (Ref. 6). A. M. Glebova, Technician, took part in the experiments. There are 7 figures, 4 tables, and 15 references: 3 Soviet.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut  
iskusstvennogo volokna (All-Union Scientific Research  
Institute of Synthetic Fibers)

SUBMITTED: January 18, 1960

Card 3/3

KIRKO, V.V., dotsent; TOKAREVA, L.M.

Complications following puncture of Highmore's sinuses. Zhur. ush.,  
nos. i gorl.bol. 22 no.1;66-69 Ja-F '62. (MIRA 15:5)

1. Iz kliniki bolezney ukha, gorla i nosa (zav. - zasluzhennyi deyatel'  
nauki prof. B.V.Yelantsev) Kazanskogo meditsinskogo instituta.  
(ANTRUM--SURGERY)

TOKAREV, L.N., inzh.

Magnetic amplifiers without control windings. Vest. elektroprom.  
34 no.5:49-52 My '63.

(MIRA 16:5)

(Magnetic amplifiers)

TOKAREV, Lev Nikolayevich; BALASHOV, O.I., red.; FREGER, D.P.,  
red. izd-va; BELOGUROVA, I.A., tekhn. red.

[High-speed full-wave magnetic amplifier without control  
windings] Bystrodeistviushchii dvukhpoluperiodnyi mag-  
nitnyi usilitel' bez obmotok upravleniia. Leningrad,  
1962. 22 p. (Leningradskii dom nauchno-tekhnicheskoi pro-  
pagandy. Obmen peredovym opytom. Seria: Pribory i elementy  
avtomatiki, no.17) (MIRA 16:5)  
(Magnetic amplifiers)

SAPRONOV, V.A.; KURPICHEVA, T.N.; TOKAREVA, L.T.; CHAVCHICH, T.A.;  
LEVIT, G.M.; BORODUSHKINA, Kh.N.; BOGUSLAVSKIY, D.B.

Effect of some formula and technological factors on the quality  
of butyl rubber diaphragms for the forming and vulcanizing  
equipment. Kauch. i rez. 23 no.5:14-19 My '64. (MIRA 17:9)

1. Dnepropetrovskiy shinnyy zavod.

TOKAREVA L.V., ZEMLYANOV A.D., MINAKOV V.A.

Quantitative determination of the amorphous phase in pyrocerams.  
Izv. AN SSSR. Neorg. mat. 1 no.6:979-983 Ja '65. (MIRA 18:8)



GARIF'YANOV, N.S.; TOKAREVA, I.V.

Use of the paramagnetic resonance method in studying the crystallization  
of glasses. Fiz. tver. tela 6 no.5:1453-1456 My '64.  
(MIRA 17:9)

1. Fiziko-tekhnicheskii institut Kazanskogo filiala AN SSSR.

MOTOV, Sergey Iosifovich; TOKAREVA, M., red.; ANAPOL'SKIY, Ya., tekhn.  
red.

[Planning the production and financial operations of a state  
farm] Planirovanie proizvodstvenno-finansovoy deyatel'nosti  
sovkhoza. Moskva, M-vo sel'khoz. SSSR. No.2.[Financial plan-  
ning on state farms] Finansovoe planirovanie v sovkhozakh.  
1959. 141 p. (MIRA 15:1)

(State farms--Finance)

TOKAREVA, M.

SHOL'TS, S.V.; LEVITIN, I.I., red.; TOKAREVA, M., red.; ANOPOL'SKIY, Ya.,  
tekhn. red.

[Principles of agriculture statistics] Osnovy sel'skokhoziaistven-  
noi statistiki. Izd. 2. Pod. red. I.I. Levitina. Moskva. Pt. 1. 1957.  
58. (MIRA 11:7)

(Agriculture--Statistics)

SHOL'TS, S.V.; LEVITIN, I.I., red.; TOKAREVA, M., red.; ANOPOL'SKIY, Ya.,  
tekhn. red.

[Principles of agricultural statistics] Osnovy sel'skokhoziaistven-  
noi statistiki. Izd.2. Pod red. I.I. Levitina. Moskva. Pt.1. 1957.  
58.p. (MIRA 11:10)

(Agriculture--Statistics)

*Tokarev, M*

LAUFAR, A.P.; TOKAREVA, M., red.; ANOPOL'SKIY, Ya., tekhn.red.

[Business correspondence for collective farms] Deloproizvodstvo v  
kolkhozakh. Moskva, Upravlenie podgotovki kadrov M-va sel'khoz.  
SSSR, 1957. 110 p. (MIRA 11:2)  
(Commercial correspondence) (Collective farms)

VISHNEVSKIY, M. (Simferopol').

Road to mastery. Radio no.6:13 Je '53.

(MIRA 6:6)

(Tokareva, Mariia)

SHOL'TS, S.V.; LEVITIN, I.I., otv. red.; TOKAREVA, M., red.;  
YANOPOL'SKIY, Ya., tekhn. red.

[Principals of agricultural statistics] Osnovy sel'skokhoziaistven-  
noi statistiki. Pod red. I.I.Levitina. Moskva, Upravlenie pod-  
gotovki kadrov M-va sel'.khoz.SSSR. No.3. 1955. 41 p.  
(MIRA 15:4)

(Agriculture--Statistics)

ABRAMOVA, Aleksandra Afanas'yevna, dots.; KARAVAYEV, Valentin  
Valentinovich, dots.; kand. jurid. nauk; TOKAREVA, M.,  
red.; TRATNIKOVA, V., tekhn. red.

[Basic principles of Soviet labor law] Osnovy sovetskogo  
trudovogo prava. Izd.3., perer. Pod red. V.V.Karavaeva.  
Moskva, VZUK, 1962. 139 p. (MIRA 16:7)  
(Labor laws and legislation)



BERGER, A.S.; TOKAREVA, M.D.

Phase composition of products of the interaction of  $\beta$ -tricalcium  
silicate with soda-aluminate solutions. Izv. Sib. otd. AN SSSR  
no.9:71-79 '62. (MIR: 17:8)

1. Khimiko-metallurgicheskiy institut Sibirskogo otdeleniya  
AN SSSR, Novosibirsk.

TOKAREVA, M.F.

Shortcomings in the organization of workers' wages in Uzbek enterprises manufacturing agricultural machinery. Izv.AN Uz. SSR.Ser.obshchestv.nauk no.4:39-45 '58. (MIRA 13:4)  
(Uzbekistan--Agricultural machinery industry)

1. GALUSHKINA, N. A., TOKAREVA, M. F.

2. SSSR (600)

4. Uzbekistan-Oil Industries

7. Production capacity potentials of the Uzbekistan oil factories.  
Masl. zhir. prom. 17 No. 5, 1952

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

1. GAIUSHKINA, N.A.: TOKABEVA, M.F.

2. USSR (600)

4. Oil Industries - Uzbekistan

7. Production capacity potentials of the Uzbekistan oil factories.  
Masl. zhir. prom. 17. no. 5. 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

-TOK AK 2 17, 18, 19

"The Mutual System Consisting of the Chlorides and Nitrates of Lithium and Strontium," by M. V. Tokareva and A. G. Bergman, Rostov-na-Donu State University and Voroshilovgrad State Pedagogic Institute, Zhurnal Neorganicheskoy Khimii, Vol 1, No 11, Nov 56, pp 2570-2576

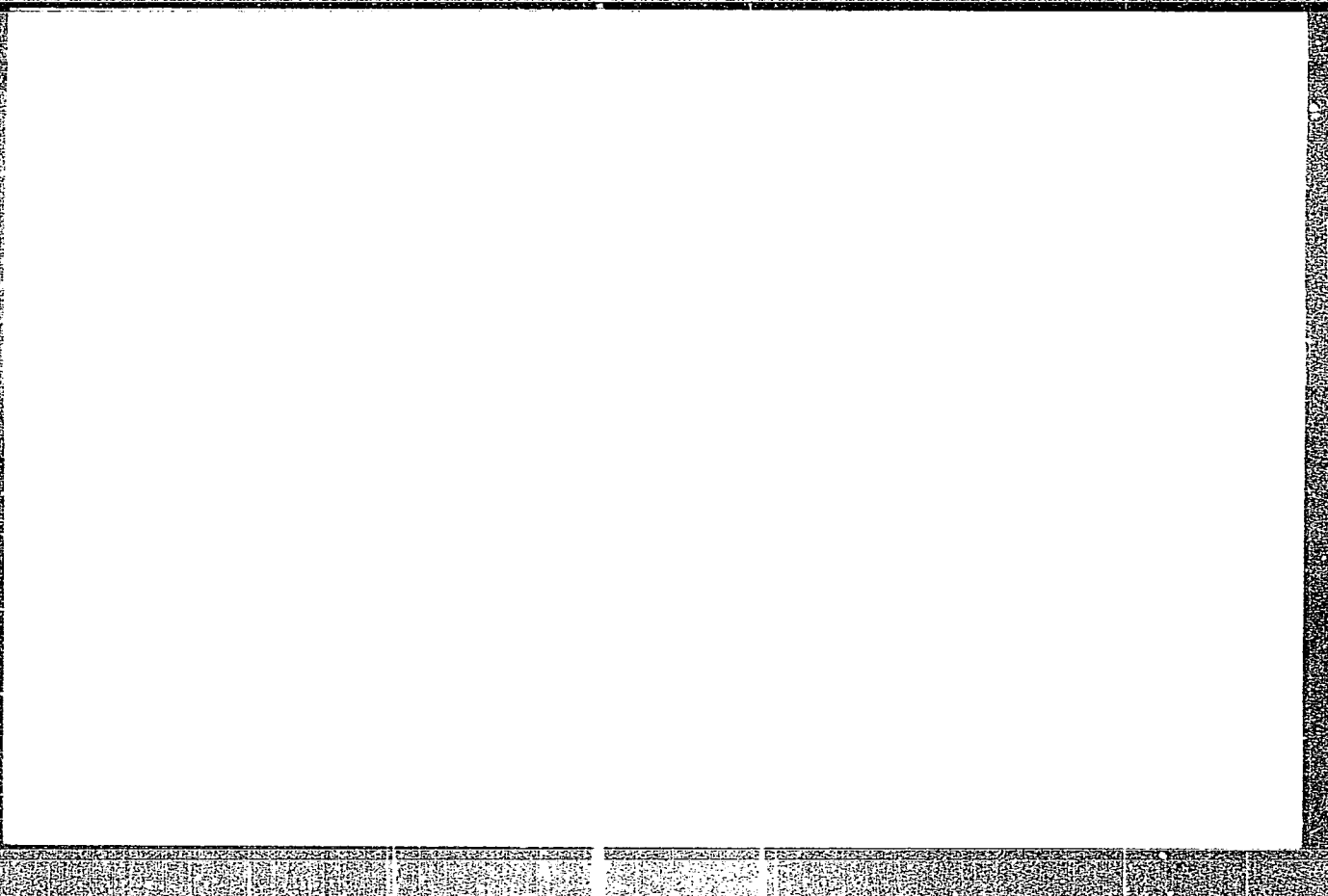
✓

Results of an investigation of the system  $\text{Li, Sr//Cl, NO}_3$  are reported. These results supplement data obtained earlier on the systems  $\text{Li, Sr//Cl, SO}_4$  and  $\text{Li, Sr//Cl, F}$ . The paper represents part of a more extensive investigation in which an attempt has been made to determine the effect of different anions on the alkali metals - alkaline earth cations exchange in salt melts. On the basis of the results obtained in this instance, the conclusion is made that the system  $\text{Li, Sr//Cl, NO}_3$  is analogous to the system  $\text{Li, Sr//Cl, SO}_4$ , except that it is reversible to a greater extent. It is furthermore concluded that the system  $\text{Li, Sr//Cl, NO}_3$  differs from the system  $\text{Li, Sr//Cl, F}$  in that complex-formation predominates in the latter, while cation exchange predominates in the first. Data on the binary systems  $(\text{LiNO}_3)_2 - \text{Sr(NO}_3)_2$ ,  $\text{SrCl}_2 - \text{Sr(NO}_3)_2$ ,  $\text{LiNO}_3 - \text{LiCl}$ , and  $\text{Li}_2\text{Cl}_2 - \text{SrCl}_2$  and on the diagonal sections  $(\text{Sr(NO}_3)_2 - \text{Li}_2\text{Cl}_2$  and  $(\text{LiNO}_3)_2 - \text{SrCl}_2$  are given. (U).

Sim. 1321

**"APPROVED FOR RELEASE: 07/16/2001**

**CIA-RDP86-00513R001756020010-9**



**APPROVED FOR RELEASE: 07/16/2001**

**CIA-RDP86-00513R001756020010-9"**

118

BIOCHEMICAL FEATURES OF FROST-DAMAGED GRAIN. V. Kre-  
tovich and P. Tokareva. *Biokhimiya* 4, 68-79 (1930).  
Frost-damaged grain is characterized by an increased  
diastatic activity and acidity, and an inelasticity of gluten.  
Besides conditioning at 40° for 40 min., addn. of lactic  
acid improves the quality of the bread. H. Cohen

TOKAREVA, M.V.; RUDENKO, V.K.

Reciprocal system consisting of lithium and variun nitrates and chlorides.  
Zhur.neorg.khim. 8 no.3:702-707 M. '63. (MIRA 16:4)

1. Luganskiy gosudarstvennyy pedagogicheskiy institut.  
(Systems (Chemistry))



AUTHORS: Tokareva, I. V., Bergman, A. G., SOV/78-3-8-31/48  
Kayalova, S. S.

TITLE: Reciprocal System of Nitrates and Chlorides of Sodium and Calcium (Vzaimnaya sistema iz nitratov i khloridov natriya i kal'tsiya)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol. 3, Nr 8, pp. 1909-1913 (USSR)

ABSTRACT: Details were given of the experimental examinations of the reciprocal system of nitrates and chlorides of sodium and calcium in the presence of solvents. These examinations were performed by means of visual-polythermal methods. The system Na, Ca || Cl, NO<sub>3</sub> is comparatively simple and the components forming the system do not react with each other by forming complex compounds and solid solutions. This system is analogous to the systems: Na, Sr || Cl, NO<sub>3</sub> and Na, Ba || Cl, NO<sub>3</sub>. The results demonstrate that the reciprocal system Na, Ca || Cl, NO<sub>3</sub> belongs to the most simple reciprocal systems.

Card 1/2 There are 9 figures, 3 tables, and 10 references, 10 of which

Reciprocal System of Nitrates and Chlorides of  
Sodium and Calcium

SOV/78-3-8-31/49

are Soviet.

ASSOCIATION: Rostovskiy-na-Donu gosudarstvennyy universitet i Luganskiy  
gosudarstvennyy pedagogicheskiy institut (State University  
Rostov ~~na~~ **Donu** and the State Pedagogical Institute, **Lugansk**)

SUBMITTED: July 21, 1957

Card 2/2

TOKAREVA, M.V.; BERGMAN, A.G.; KAYALOVA, S.S.

Reciprocal system consisting of sodium and calcium nitrates and chlorides. Zhur. neorg. khim. 3 no.8:1909-1913 Ag '58.

(MIRA 11:9)

1. Rostovskiy-na-Donu gosudarstvennyy universitet i Luganskiy gosudarstvennyy pedagogicheskiy institut.

(Systems (Chemistry))

TOKAREVA, M.V.

USSR/Physical Chemistry - Thermodynamics, Thermochemistry, B-8  
Equilibria, Physical-Chemical Analysis, Phase Transitions.

Abs Jour : Referat Zhur - Khimiya, No 1, 1958, 407

Author : A.G. Bergman, M.V. Tokareva.

Inst : -

Title : Interaction Between Silver Nitrate and Chlorides of Alkali  
Earth Metal in Absence of Solvent.

Orig Pub : Zh. neorgan. khimii, 1957, 2, No 5, 1086-1093

Abstract : The system of Ag and Ca chlorides (I and II) and of Ag and  
Ca nitrates (III and IV), as well as the diagonal sections  
III - BaCl<sub>2</sub> (V) and III - SrCl<sub>2</sub> (VI) were studied by the  
visual-polythermal method. The system is irreversibly re-  
ciprocal and singular. There is a shift of the metatheti-  
cal reaction to the side of I - Me(NO<sub>3</sub>)<sub>2</sub> (VII) in the ear-  
lier studied reciprocal systems of Ag, K and Li, and the  
most refractory component of the stable diagonal appears  
as the exchange product. The study of the diagonal

Card 1/2

USSR/Physical Chemistry - Thermodynamics, Thermochemistry, B-8  
Equilibria, Physical-Chemical Analysis, Phase Transitions.

Abs Jour : Ref Zhur - Khimiya, No 1, 1958, 407

sections III - V and III - VI showed that the reciprocal systems of these salts were also singular with a sharp shift of metathesis to the side of VII - I. The character of the system Ag, Sr // Cl, NO<sub>3</sub> is the most singular. Numerical data and graphs of states of the systems are given.

Card 2/2

*JOHANEV, M. V.*  
BERGMAN, A.G.; TOKAREVA, M.V.

Fusibility diagram in a system of barium and calcium nitrates and chlorides. Zhur. neorg. khim, 2 no.8:1888-1894 Ag '57. (MIRA 11:3)

1. Rostovskiy-na-Donu gosudarstvennyy universitet i Voroshilov-gradskiy gosudarstvennyy pedagogicheskiy institut.  
(Systems (Chemistry))

TOKAREVA, M.V.; BERGMAN, A.G.

Fusibility diagram in a system of potassium and strontium chlorides and nitrates. Zhur. neorg. khim. 2 no.8:1895-1906 Ag '57.

(MIRA 11:3)

1. Rostovskiy-na-Donu gosudarstvennyy universitet i Voroshilovgradskiy gosudarstvennyy pedagogicheskiy institut.

(Systems (Chemistry))

**"APPROVED FOR RELEASE: 07/16/2001**

**CIA-RDP86-00513R001756020010-9**

**APPROVED FOR RELEASE: 07/16/2001**

**CIA-RDP86-00513R001756020010-9"**



BERGMAN, A.G.; TOKAREVA, M.V.

Reaction of silver nitrate with chlorides of alkali earth metals  
in the absence of a solvent. Zhur. neorg. khim. 2 no.5:1086-1093  
My '57. (MLRA 10:8)

1. Rostovskiy gosudarstvennyy universitet imeni V.M. Molotova i  
Voroshilovgradskiy pedagogicheskiy institut imeni T.G. Shevchenko.  
(Silver nitrate) (Alkali metals) (Chlorides)

ТОКАРЕВА, М. В.

ТОКАРЕВА, М. В.: "Investigation of the chloride-nitrate exchange of mono- and divalent metals in the fused state." Rostov na Donu State University V. N. Molodtsov. Chair of General and Inorganic Chemistry. Rostov na Donu, 1956. (Dissertation for the Degree of Candidate in Chemical Science.)

Knizhnaya letopis', No. 30, 1956. Moscow.

TOKAREVA, M.V.; BERGMAN, A.G.

Reciprocal system of lithium and strontium chlorides and  
nitrates. Zhur. neorg. khim. 1 no.11:2570-2576 N '56.

(MLRA 10:5)

1. Rostovskiy-na-Donu gosudarstvennyy universitet i Voroshilovgradskiy  
gosudarstvennyy pedagogicheskiy institut.

(Lithium salts) (Strontium salts) (Systems (Chemistry))

TOKAREVA, M. V., and BERGMAN, A. G.

"Mutual System Composed of the Chlorides and Nitrates of Lithium and Strontium," by M. V. Tokareva and A. G. Bergman, Rostov-na-Donu State University and Voroshilovgrad State Pedagogic Institute, Zhurnal Neorganicheskoy Khimii, Vol 1, No 11, Nov 56, pp 2570-2576

The constitutional diagram of the system  $\text{Li,Sr//Cl,NO}_3$  has been investigated. The results of the work described in this instance supplement data on the systems  $\text{Li,Sr//Cl,SO}_4$  and  $\text{Li,Sr//Cl,F}$ , which have been studied earlier.

Sum 1274

SHATS, V.Ya.; TOKAREVA, N.A.

Prolonged anticoagulant therapy under outpatient conditions.  
Kaz.med.zhur. no.5:84-86 S-0 '62. (MIRA 16:4)

1. Tsentral'naya poliklinika dorozhnoy klinicheskoy bol'nitsy  
stantsii Omsk (nachal'nik - S.F.Mel'nik, nauchnyy rukovoditel'-  
prof. M.E.Vinnikov).

(ANTICOAGULANTS (MEDICINE))

FEDORIN, Yu.V.; TOKAREVA, N.P.

Agrochemical characteristics of swamp in Semirech'ye. Pochvo-  
vedenie no. 12:7-11 D '65 (MIRA 19:1)

1. Kazakhskiy institut zemledeliya. Submitted March 22, 1965.

KRAYEVSKIY, A.A.; ZHELEZNOVA, Ye.S.; TOKAREVA, N.V.

Obtaining the alkaloid triacanthine from the leaves of *Gleditschia triacanthos* L. Med.prom. 14 no.4:30-33 Ap '60. (MIRA 13:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut lekarstvennykh i aromaticeskikh rasteniy.

(TRIACANTHINE)

MOROZOV, G.; SAVIN, N.; TOKAREVA, O.; KAL'NIN, O.

We lower production costs. Prem. keep. no. 10:20-22 0 '55,  
(Efficiency, Industrial) (MLRA 9:4)



FEDOTOV, N.P., prof. (Tomsk); TOKAREVA, O.G. (Semipalatinsk)

F.B. Gebler, prominent Siberian physician. Trudy Perm. gos.  
med. inst. 43:171-174 '63. (MIRA 17:6)

TOKAREVA, O. G., CAND MED SCI, <sup>*Data for*</sup> ~~"MATERIAL"~~ ON THE HISTORY  
OF <sup>*the*</sup> FORENSIC MEDICAL SERVICE IN WESTERN SIBERIA IN THE PRE-  
REFORM PERIOD." SEMIPALATINSK, 1961. (TOMSK STATE MED INST).  
(KL, 3-61, 236).

TOKAREVA, O.H.

New electronic mathematical machine for calculating frame systems.  
Vych. i org.tekh. v stroi. i proek. no.1:88-89 '64.

(MIRA 18:10)

1. Institut kibernetiki AN UkrSSR.

FUKHOV, Georgiy Yevgen'yevich; VASIL'YEV, Vsevolod Viktorovich;  
STEPANOV, Arkadiy Yevgen'yevich; TOKAREVA, Ol'ga Nikolayevna;  
MAS, R.L., red.izd-va; RAKHLINA, N.P., tekhn. red.; REKES,  
M.A., tekhn. red.

[Electric modeling of problems in structural mechanics] Elek-  
tricheskoe modelirovanie zadach stroitel'noi mekhaniki. [By]  
G.E.Pukhov i dr. Kiev, Izd-vo AN USSR, 1963. 285 p.  
(MIRA 17:3)

1. Chlen-korrespondent AN Ukr.SSR (for Pukhov).

TOKAREVA, O.N.

Some problems concerning the solution of linear programming problems. Mat. mod. i elek. tsepi no.1:28-32 '63. (MIRA 16:11)

| 1ST AND 2ND CODERS   |  |  |  |  |  |  |  |  |  | 3RD AND 4TH CODERS |  |  |  |  |  |  |  |  |  | 5TH AND 6TH CODERS |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|--------------------|--|--|--|--|--|--|--|--|--|--------------------|--|--|--|--|--|--|--|--|--|
| <p><i>CA</i></p> <p style="text-align: right;"><i>12</i></p> <p>Biochemical changes in the grains of wheat damaged by the wheat bug. II. V. L. Kretovich and P. P. Tokareva. <i>Biokhimiya</i> 4, 636-47(1939); cf. C. A. 33-1833. The addn. of dry enzyme preps. from the damaged grains to normal wheat flour destroys the gluten. These enzymes are not activated by cysteine nor inhibited by bromates. Normal gluten was obtained from a wheat sample contg. 32% damaged grain by steaming for 1.5-3 min., or by heating (after the moisture content had been raised 20%) 30-45 min., rapidly raising the temp. from 40° to 80°.</p> <p style="text-align: right;">H. Priestley</p> |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |
| <p>ASS-15A METALLURGICAL LITERATURE CLASSIFICATION</p>   |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |

CHERKASSKAYA, A.R.; PEREL'MUTER, Ye.A.; TOKAREVA, R.O.

Pneumoencephalographic studies in organic psychoses in  
childhood and adolescence. Zhur. nevr. i psikh. 64 no.7:  
1070-1073 '64. (MIRA 17:12)

1. Kafedra psikhiiatrii (zaveduyushchiy - prof. L.A. Mirel'zon)  
Odesskogo meditsinskogo instituta i Odesskaya oblastnaya psikh-  
nevrologicheskaya bol'nitsa (glavnyy vrach F.K. Filyanovskiy).

118

Biochemical changes in the grain of wheat damaged by the wheat-bug. V. Kretovich and R. Tokarska. *Bio-khimiya* 3, 337-38 (1938).—The proteins of the damaged grain become very sol. in water as well as in 60% alc.; diastatic activity increases, and the acidity is also somewhat higher. The glutathione content is the same. The gliadin from damaged grains shows a lower viscosity and specific rotation, and an increased S content. The damage to the grain is done only at the point bitten, and is not transmitted to the entire grain. H. Cohen

Biochem. Lab. of the All-Union Grain Inst.  
~~Central Scientific Research Laboratory of the~~  
~~Fermentation Industry, N.K.P.P., Moscow~~

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION



11D

CA

Mochemistry of the damages inflicted on wheat by  
wheat bug and frost. V. L. Kretovich and K. R. Tokat-  
cya. Bull. acad. sci. U. R. S. S., Ser. biol. 1930, no. 25  
(in English, 872). See C. A. 33, 18319, GRAP. J. R. D.

ASD-SLA METALLURGICAL LITERATURE CLASSIFICATION

TOKAREVA, R.R.

Biochemical changes in the grains of wheat damaged by wheat-bug.  
V.L. KRUTOVICH AND R.R. TOKAREVA. ( BIOCHEMICAL LABORATORY, ALL UNION  
INSTITUTE OF GRAIN, MOSCOW) biokhimiya 4, no.6, p. 636, 1939.

11 - D

CA

Biochemistry of the ripening of rye grain. V. Kretovich, R. Tekatskaya, J. Petrova, T. Drozdova, L. Auerman, and N. Seolins (Baking Inst., Moscow). *Biochimie* 12, 545-55 (1947); cf. C.A. 30, 82019. As the grain ripens, there is a decrease in the amylase and proteolytic activity, and in the nonprotein N and reducing sugars. The farther the ripening proceeds, the less the proteins and starches are liable to be attacked by the enzymes. Early harvesting of the grain is not the cause of poor bread-baking qualities; but the slightest sprouting is highly detrimental. H. Priestley

ASTM-SLA METALLURGICAL LITERATURE CLASSIFICATION

TOKAREVA R., KRETOVICH V., AUERMAN L., SMOLINA N., KULMAN A., BRANCPOL'SKAYA, R.

"Change in the Quality of Rye Flour During Storage," Dok. An, 58, No. 9, 1947.

KRETOVICH, V.; TOKAREVA, R.

Inst. Baking Industry, -c1948-; Inst. Biochemistry im. A. N. Bakh, USSR Acad. Sci., Moscow, -c1948-.

"Reaction of amino acids and sugars at high temperatures," *Biomhimiya*, 13: 6, 1948.

BNL Guide, 2: 4, 1949.

CA

12

Volatile aromatic constituents of bread and malt. V. L. Kretovich and R. R. Tokareva (Vsesoyuz. Nauch.-Issledovatel. Inst. Khlebopekarnof Prom., Ministerstva Mashchevol Prom. S.S.S.R.). *Doklady Akad. Nauk S.S.S.R.* 60, 211-4 (1949).—Steam distn. in vacuo at 40-5° showed that the pleasant taste and olfactory characteristics of bread of red rye malt are paralleled by volatile aldehyde content. Generally, 21-30 mg./100 g. (calcd. as AcH) can be regarded as the dividing line for malt—classification. In bread, the "higher" types of wheat bread are lower in aldehydes than the more "crude" forms of dark bread, which are more aromatic; these values range from 3 to 9 mg./100 g. as AcH, with essential absence of fural in refined types of wheat bread, ranging to 0.8 in rough dark rye bread. Traces of acetylmethylcarbinol are found in malt, but not in the bread. In addn. volatile acids and esters also contribute to the aroma of the materials. The identification of individuals is not accomplished. (J. M. Komolapoff

CH

12

Content of hydroxymethylfurfural in bread and hops.  
V. L. Kretovich and R. R. Tokareva (A. N. Bakh Biochem.  
Inst., Acad. Sci. U.S.S.R., Moscow). *Doklady Akad.  
Nauk S.S.S.R.* 74, 533-5 (1950). — Hydroxymethylfurfural  
(I) is present in the following quantities: none in bread from  
72% wheat flour, 2.2 mg. % if 5.5% sugar is added to the  
flour, and 2.5-14.4 mg. % if 3-15% wheat hops is added  
to the flour. Bread from 85% wheat flour has no I, but  
96% flour gives bread with 18 mg. % I; addn. of sugar to  
flour gives higher content of I. Red rye hops of high qual-  
ity contain 37-40 mg. % I. I belongs therefore to the im-  
portant flavoring materials of bread. The detn. of I con-  
sists of aq. extn. overnight, neutralization with *N* NaOH,  
extn. for 48 hrs. with  $\text{Et}_2\text{O}$ , drying the ext. with  $\text{Na}_2\text{SO}_4$ ,  
concn. in  $\text{CO}_2$  stream on water bath, acidification of residue  
with 16% HCl and addn. of phloroglucinol in 16% HCl,  
then weighing the pptd. phloroglucide of I.  
G. M. Kosolapoff

Bolany 11-11

Biochemical, colloidal-chemical, and technological study of ripening of rye. V. L. Kretovsk, R. R. Tokareva, I. S. Petrova, T. V. Drodova, A. G. Kul'man, R. A. Brano-pol'skaya, L. Ya. Auerman, and N. I. Smolina (A. N. Bakh Biochem. Inst., Moscow). *Biokhimiya Zerna, Akad. Nauk S.S.S.R., Sbornik 1*, 65-100 (1951).—During ripening of rye grain there occurs a progressive decline of nonprotein N, of enzymic hydrolytic reactions, of enzymic cleavage of proteins, much as it is observed in wheat. Susceptibility of starch to enzymic cleavage is reduced as is amylolytic activity, detd. in autolyzed samples and in aq. exts. Ripening of the grain on the plant causes a lowering of hydrophilic properties of the grain colloids, possibly due to processes of aggregation; it is characterized by lowered ability to bind water, lowered quantities of colloidal matter present that are peptized by H<sub>2</sub>O, and a substantial rise of the rate of filtration of dil. suspensions. Ripening after harvesting causes a further decline of hydrophilic properties. Rye grain harvested at wax-ripe stage gives after proper drying a 90% yield of satisfactory bread. Even slightest signs of sprouting lower the quality of bread obtainable from the rye grain.

G. M. Kosolapoff



0A

biochem

Biochemical control of procedures of drying of rye. R. R. Tokaryn and V. L. Kretovich (A. N. Bakh Biochem. Inst., Moscow). *Biokhimiya Zerna, Abad. Nauk S.S.S.R., Sbornik 1*, 104-13 (1951).—Although lowered catalase activity of rye grain signifies poor quality of bread prepd. from such grain, there appears to be no correlation between catalase activity and viability of the grain. The following method is suggested for control of grain quality for detection of improper drying. An aq. ext. of the ground flour is treated with  $H_2O_2$  and the vol. of  $O_2$  evolved per 5 min. is detd. Improperly dried grain yields (per 5-g. sample) 0.5-1.0 ml.  $O_2$ ; grain that had not been subjected to flame-drying yields 1-5 ml.; this indicates unimpaired catalase function. G. M. Kosolapoff

1. KRETOVICH, V. L.- TOKAREVA, R. R. - PETROVA, I. S. - DROZDOVA, T. V.  
KUL'MAN A. G. - BRANOPOL'SKAYA, R. A. - AUVERMAN, L. YA. - SMOLINA, N. I.
2. USSR (600)
4. Wheat
7. Biochemical, colloid-chemical, and technological studies of the  
maturing of wheat. Biokhim.zerna no. 1, 1952
9. Monthly List of Russian Accessions, Library of Congress, March 1953, Unclassified.

✓ Aromatic substances of red rye malt and rye bread.  
V. L. Kretovich, R. R. Tokureva, I. S. Petrova, and T. V.  
Drozdova. *Trudy Vsesoyuz. Nauch.-Issledovatel. Inst.  
Khebopekarnoi Prom.* 1953, No. 5, 67-72. Referat. Zhur.  
Khim. 1954, No. 39804.—The substances responsible for the  
specific taste of rye bread have been investigated. The  
volatile fraction of the aromatic substances obtained by  
vacuum distn. consists presumably of aldehydes, since  
oxidation of the rye malt by atmospheric O deprives the  
malt of its specific flavor. An important component of the  
volatile fraction of rye malt is hydroxymethylfural (I).  
I is mainly responsible for the specific flavor of rye bread.  
However, I is formed nearly exclusively in the bread crust.

The amt. of I in bread is directly related to the yield of  
flour and the amt. of sugar in the dough, the oven temp.,  
and the duration of the bread baking. Distillates from dif-  
ferent samples of rye malt and bread contained mainly  
AcOH and small amts. of HCOOH. E. Wiedgans

10KAREVA, K. I.

Chem Abs v48

1-25-54

Food

Melanoidin formation and color of bread crust. L. Ya. Auerhan, V. L. Kretovich, E. A. Alyakinskaya, V. M. Bazarnova, and R. R. Tokareva (A. N. Bakh Biochem. Inst. Acad. Sci. U.S.S.R., Moscow). *Doklady Akad. Nauk S.S.S.R.* 92, 131-3(1953).—When wheat grain is dried at elevated temp. (150°) the protein-proteinase system undergoes profound changes: water-sol. N, raw gluten content, and its H<sub>2</sub>O-absorbing power decline, with almost complete inactivation of the proteinases. The bread baked from the flour prepd. from such grain has low porosity and high d., owing to poor gas retention. However, the crust of such bread is unusually light in color. This is explained by the lack of proteinase activity since this fact causes a lack of the necessary carbohydrate materials which act as raw materials for melanoidin formation which produces the normal crust color. When maltose, fructose, sucrose, and glycine were added to the deficient flour, the resulting bread had a more pigmented crust; glycine was particularly effective, and the full complement of glycine and one of the disaccharides gave normal color. Thus the color is produced by interaction of reducing sugars with products of protein hydrolysis. G. M. Kosolapoff

TOKAREVA, R.R.

Using enzymes in bread baking. Khleb. i kond. prom. 1 no.2:14-17  
F '57. (MLRA 10:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khlebopekarnoy  
promyshlennosti.  
(Enzymes) (Bread)

TOKAREVA, R.R.; SMIRNOVA, G.M.; KRETOVICH, V.L.

[Use of ferment preparations in the bread making  
industry] Primenenie fermentnykh preparatov v khlebo-  
pekarnoi promyshlennosti. Moskva, TSentr. in-t nauchno-  
tekhn. informatsii pishchevoi promyshl., 1963. 68 p.  
(MIRA 17:9)

SMIRNOVA, G.M.; TOKAREVA, R.R.; KRETOVICH, V.I.

Ferment preparations as regulators of biochemical and  
microbiological processes in the making of rye bread.  
Biokhim. zer. i khlebopech. no.7:245-263 '64.

(MIRA 17:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khlebope-  
karnoy promyshlennosti i Institut biokhimii imeni Bakha AN  
SSSR.

TOKAREVA, R.R.; SMIRNOVA, G.M.; YEGOROVA, I.A.; KALININA, V.I.

Use of enzymes for improving the quality of bread made from low  
quality flour. Trudy TSNIKHP no.10:138-147 '62. (MIRA 18:2)



TOKAREVA, R.R.

Investigating the ferments prepared with the new types of mold  
fungus for the improvement of bread quality. Trudy TSNIKHP  
no.8:135-140 '60. (MIRA 15:8)  
(Fermentation) (Bread)

TOKAREVA, R. R., KRETovich, V. L. (USSR)

"The Use of Concentrated Enzyme Preparations from Mould Fungi  
in Bread Making."

Report presented at the 5th Int'l. Biochemistry Congress,  
Moscow, 10-16 Aug 1961.

TSENTSIPER, A.B.; TOKAREVA, S.A.

Reaction of carbon monoxide with sodium and potassium superoxides.  
Zhur.neorg.khim. 6 no.11:2474-2480 '61. (MIRA 14:10)  
(Carbon monoxide) (Sodium superoxide)  
(Potassium superoxide)

KUZNETSOV, V.G.; TOKAREVA, S.A.; DOBROLYUBOVA, M.S.

X-ray diffraction study of sodium ozonide  $\text{NaO}_3$ . Zhur.neorg.khim.  
7 no.5:967-970 My '62. (MIRA 15:7)  
(Sodium oxides) (X rays--Diffraction)

ACCESSION NR: AP4033391

S/0062/64/000/004/0739/0740

AUTHOR: Tokareva, S. A.; Dobrolyubova, M. S.

TITLE: Ozonidizing sodium hydroxide in the -100 to 50C temperature range

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 4, 1964, 739-740

TOPIC TAGS: sodium hydroxide, ozonization sodium ozonide, NaO sub 3, stability, sodium superperoxide, synthesis

ABSTRACT: The process of ozonidizing NaOH at -100 to +50C was investigated. The possibility of forming NaO<sub>3</sub> depends on the experimental conditions: at a slow ozone-oxygen feed rate, the ozone decomposes; at very high rates and low temperatures, the contact time is too short. With an ozone-oxygen mixture feed of 20 liters/hour, noticeable ozonidation in NaOH occurs at -60C. At 200 liters/hour ozone-oxygen feed rate, ozonidation of NaOH was insignificant at -100 to -40C; in the -20 to +50C range a maximum yield of about 2% NaO<sub>3</sub> (on the weight of the initial alkali) was obtained at 0C, with yield reduced to 0.18-0.2% at 50C. The material is storable for several months in the absence of atmospheric moisture. Small amounts of sodium superperoxide were formed simultaneously during ozonidation.

Card 1/2

ACCESSION NR: AP4033391

Orig. art. has: 3 figures.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova  
Akademii nauk SSSR (Institute of General and Inorganic Chemistry Academy of  
Sciences SSSR)

SUBMITTED: 11Mar63

ENCL: 00

SUB CODE: IC

NO REF SOV: 002

OTHER: 002

Card 2/2

APPLIED POLYMER SYMPOSIA

AUTHOR Sokol, V. I., Tokarev, S. A., Skovlin, Ye. I.

ozonides \_\_\_\_\_ /

[illegible]

**TOPIC TAGS:** sodium ozonide, potassium ozonide, density, refractive index, crystallographic data, infrared spectrum, Raman effect, crystallographic property.

crystals were prepared by dissolving 10 g of the polymer in 100 ml of 83%  $\text{NaOH}$ , the clear liquid was poured into 100 ml of water, the crystals were impure and in yield 1.5 g. The crystals were purified by dissolving in 100 ml of 83%  $\text{NaOH}$ , the clear liquid was poured into 100 ml of water, the crystals were impure and in yield 1.5 g. The crystals were purified by dissolving in 100 ml of 83%  $\text{NaOH}$ , the clear liquid was poured into 100 ml of water, the crystals were impure and in yield 1.5 g.

Card 1 / 2

L 16111-55

ACCESSION NR: AP4045837

were monoaxial, negative, with strong double refraction, their indices were  $N_D = 1.391$ ,  $N_g = 1.670$ . The densities were found at about 1.55-1.60 g/cm<sup>3</sup> for the Na and at 1.990 g/cm<sup>3</sup> for the K azanide. These azonides have long been known to be highly explosive and are very sensitive to heat and shock.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova  
Moscow, U.S.S.R. (Institute of General and Inorganic Chemistry, N. S. Kurnakova)

SUBMITTED: 20Jun63

ENCL: 00

SUB CODE: GC, IC, GP

NO REF SOV: 007

OTHER: 003

Card 2/2



TOKAREVA, S.A.

System  $\text{HClO}_4 \cdot 2\text{H}_2\text{O} \rightarrow \text{H}_2\text{O}_2$ . Ther. descr. Khim. 9 no.9:2265-2267  
S '64. (MIRA 17:11)

ACCESSION NR: AT4028338

8/0000/63/000/000/0188/0192

AUTHOR: Tokareva, S. A.; Dobrolyubova, M. S.; Makarov, S. Z. (deceased)

TITLE: Study of the NaOH ozonization process at low temperatures and identification of the physical chemical properties of sodium ozonide

SOURCE: Soveshchaniya po khimii perekisnykh soyedineniy. Second, Moscow, 1961. Khimiya perekisnykh soyedineniy (chemistry of peroxide compounds); Doklady\* soveshchaniy. Moscow, Izd-vo AN SSSR, 1963, 188-192

TOPIC TAGS: sodium hydroxide, sodium ozonide, ozonization, ozone, hydroxal, potassium hydroxide, alkali, ammonia, ozonide, sodium, potassium

ABSTRACT: In this paper the authors discuss the ozonization process of sodium hydroxide, the precipitation of sodium ozonide in a crystalline state, and the study of the properties of sodium ozonide. Crystalline sodium ozonide with a  $\text{NaO}_3$  content of 80-90% was precipitated. The ozonization process of sodium hydroxide is studied within a temperature range of from +40 through -100°C. The formation process of sodium superoxide in the ozonization of sodium hydroxide in a temperature range of -40 through -100°C is also studied. X-ray examination of sodium ozonide was made. An x-ray analysis yielded a satisfactory agreement between the experimental

Card 1/2

ACCESSION NR: AT4028338

and calculated values of  $\sin^2 \theta$  for a body centered tetragonal nucleus with a period of  $a = 11.61\text{\AA}$ ;  $c = 7.66\text{\AA}$ . A differential thermal analysis of sodium ozonide was conducted. The exothermal effect of  $-10$  through  $-20^\circ\text{C}$  which corresponds to the dissociation of sodium ozonide is reproduced on all thermograms. Orig. art. has: 3 figures and 1 formula.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. NS Kurnakova AN SSSR  
(Institute of General and Inorganic Chemistry AN SSSR)

SUBMITTED: 13Dec63

DATE ACQ: 06Apr64

ENCL: 00

SUB CODE: CH

NO REF SOV: 007

OTHER: 007

Card 2/2

TOKAREVA, S. A.; DOBROLYUBOVA, M. S.

Ozonization of sodium hydroxide within the temperature range of  
100 to 50° C. Izv AN SSSR Ser Khim no. 4:739-740 Ap '64.  
(MIRA 17:5)

1. Institut obshchey i neorganicheskoy khimii im. N. S.  
Kurnakova AN SSSR.